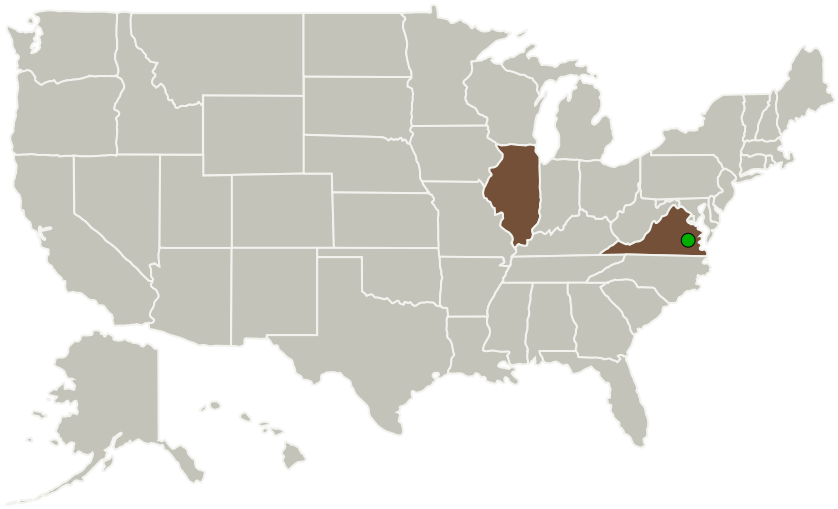
Tunable THz Source for Environmental Monitoring of Planetary Bodies, Phase I

Completed Technology Project (2015 - 2016)

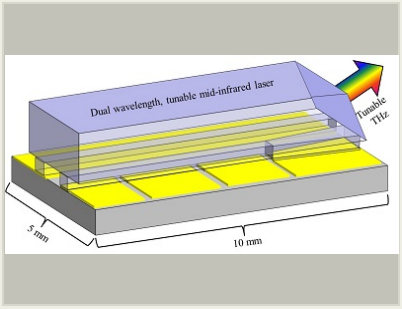
Project Introduction

This proposal describes development of a new type of quantum-cascade laser for use as a local oscillator at frequencies above 2 THz. The THz source described is a single chip solution that operates at room temperature. In addition, a mechanism for wide tuning (2-4.7 THz) is described that requires no moving parts.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Nour, LLC	Lead Organization	Industry Women-Owned Small Business (WOSB)	Wilmette, Illinois
Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia
Northwestern University	Supporting Organization	Academia	Evanston, Illinois



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Small Business Innovation Research/Small Business Tech Transfer

Tunable THz Source for Environmental Monitoring of Planetary Bodies, Phase I

Completed Technology Project (2015 - 2016)

Primary U.S. Work Locations	
Illinois	Virginia

Project Transitions

June 2015: Project Start

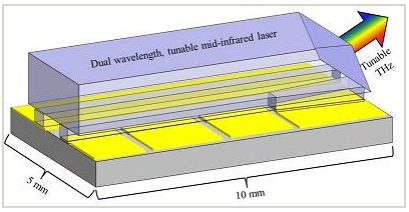
June 2016: Closed out

Closeout Summary: Tunable THz Source for Environmental Monitoring of Plane tary Bodies, Phase I Project Image

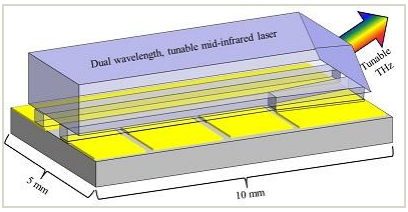
Closeout Documentation:

- Final Summary Chart Image*(https://techport.nasa.gov/file/140765)*

Images



Briefing Chart Image
Tunable THz Source for Environmental Monitoring of Planetary Bodies, Phase I *(https://techport.nasa.gov/image/134714)*



Final Summary Chart Image
Tunable THz Source for Environmental Monitoring of Planetary Bodies, Phase I Project Image *(https://techport.nasa.gov/image/132299)*

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Organization:
Nour, LLC

Responsible Program:
Small Business Innovation Research/Small Business Tech Transfer

Project Management

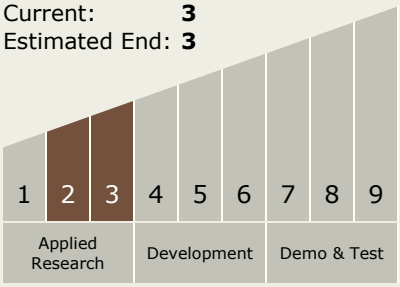
Program Director:
Jason L Kessler

Program Manager:
Carlos Torrez

Principal Investigator:
Steven B Slivken

Technology Maturity (TRL)

Start: **2**
Current: **3**
Estimated End: **3**



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Completed Technology Project (2015 - 2016)

Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.5 Lasers

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System